

REMARKS

I. Introduction

Claims 14 to 43 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicants note with appreciation the acknowledgment that the drawings filed on April 1, 2002 are accepted.

Applicants note with appreciation the acknowledgment that the Information Disclosure Statements dated April 11, 2002 and June 6, 2003 along with the references cited therein, have been considered.

II. Rejection of Claims 22 to 24 and 38 Under 35 U.S.C. § 102(b)

Claims 22 to 24 and 38 were rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 4,378,953 ("Winn"). Applicants respectfully submit that Winn does not anticipate the present claims as amended for the following reasons.

Claim 22 relates to a method for handling a membrane. Claim 22 recites that the method includes the step of at a first location, attaching a support member to the membrane. Claim 22 has been amended to recite that the attaching step is performed by positioning the transfer frame, when the membrane is in an uncured state, such that a surface of the transfer frame is in contact with the membrane and then curing the membrane. Support for this amendment can be found, for instance, at page 7, lines 19 to 20 of the Specification, which states that "before the membrane material is cured, a support member 35 is placed in contact with the membrane material." Claim 22 also recites that the support member having a rigidity which is greater than the rigidity of the membrane. Claim 22 also recites that the method includes the step of transferring the support member and the membrane from the first location to a second location.

Winn purports to describe edge-supported and fully supported membranes having substantially uniform thickness, and substantially parallel surfaces, and having the capacity to transmit at least about 90% of incident light with very little diffraction, dispersion or absorption of incident light. Winn purports to describe that the membranes are made by forming a polymer/solvent mixture, spin-

coating a film of the polymer from the mixture onto a rotatable surface, which may have a release agent thereon, and, where a release agent is present, joining a frame or other support to the membrane and removing the membrane with its attached support from the surface. In addition, Winn purports to describe an apparatus for making such membranes that includes a dispenser for dispensing a polymer/solvent mixture onto a rotatable support; a device for spinning the rotatable support at gradually increasing speeds from a first to a second speed; and a device for maintaining the speed of rotation of the support at the second speed until the membrane forms. See Abstract.

The Office Action states that “[r]egarding applicant claim 22, Winn discloses a method for handling a membrane comprising the steps of (column 5, lines 9-68; column 1, lines 33-42; column 2, lines 12-19): (1) Providing a membrane on a forming substrate; (2) Attaching a support member (closed perimeter ring or frame) to the membrane, the support member having a rigidity which is greater than that of the membrane; and (3) Lifting and moving (transferring) the membrane from its forming substrate with the support member and moving it to a second substrate.” Office Action at page 2.

It is respectfully submitted that Winn does not anticipate claim 22 for at least the reason that Winn fails to disclose, or even suggest, all of the features of claim 22 as amended. For instance, it is respectfully submitted that Winn fails to disclose, or even suggest, a method for handling a membrane that includes the step of attaching a support member to the membrane by positioning the transfer frame, when the membrane is in an un-cured state, such that a surface of the transfer frame is in contact with the membrane and then curing the membrane as recited in amended claim 22. In fact, the Office Action admits that “Winn does not specifically disclose that the support member is applied to the membrane before the membrane is cured.” Office Action at page 4.

To anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1566

(Fed. Cir. 1990). As more fully set forth above, it is respectfully submitted that Winn does not disclose, or even suggest, a method for handling a membrane that includes the step of attaching a support member to the membrane by positioning the transfer frame, when the membrane is in an un-cured state, such that a surface of the transfer frame is in contact with the membrane and then curing the membrane, as recited in amended claim 22.

Additionally, to reject a claim under 35 U.S.C. § 102, the Examiner must demonstrate that each and every claim limitation is contained in a single prior art reference. See, Scripps Clinic & Research Foundation v. Genentech, Inc., 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). Still further, not only must each of the claim limitations be identically disclosed, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the inventions of the rejected claims, as discussed above. See, Akzo, N.V. v. U.S.I.T.C., 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986). In particular, it is respectfully submitted that, at least for the reasons discussed above, the reference relied upon would not enable a person having ordinary skill in the art to practice the inventions of the rejected claims, as discussed above. Also, to the extent that the Examiner is relying on the doctrine of inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flows from the teachings of the applied art." See M.P.E.P. § 2112; emphasis in original; and see, Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, the anticipation rejection as to the rejected claims must necessarily fail for the foregoing reasons.

In summary, it is respectfully submitted that Winn does not anticipate amended claim 22.

III. Rejection of Claims 14, 15, 17, 21 to 29, 30, 31, 34, 35, 38 and 40 Under 35 U.S.C. §103(a)

Claims 14, 15, 17, 21 to 29, 30, 31, 34, 35, 38 and 40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ostuni et al., "Patterning Mammalian Cells Using Elastomeric Membranes", Langmuir, June 21, 2000 (Ostuni

et al.”) in view of Winn. It is respectfully submitted that the combination of Ostuni and Winn does not render obvious the present claims as amended herein for the following reasons.

Claim 14 relates to a method for applying a pattern to a target surface. Claim 14 recites that the method comprises the step of applying a coating of membrane material over a selected portion of a substrate, the substrate imparting the pattern to the membrane material. Claim 14 also recites that the method comprises the step of positioning a support member in contact with an outer perimeter of the membrane material. Claim 14 recites that the method comprises the step of curing the membrane material to bond the support member to the membrane. Claim 14 also recites that, when bonded to the membrane, the support member, which has a rigidity which is greater than the membrane, maintains at least a portion of the membrane in a substantially taut condition to prevent that portion of the membrane from folding onto itself. Claim 14 further recites that the method comprising the step of removing the membrane from the substrate. In addition, claim 14 recites that the method comprising the step of employing the membrane to apply the pattern to the target surface.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

It is respectfully submitted that the combination of Ostuni et al. and Winn does not render unpatentable the present claims for at least the reason that the combination of Ostuni et al. and Winn fails to disclose, or even suggest, all of the features of claims 14 and 22 as amended. For instance, it is respectfully submitted that the combination of Ostuni et al. and Winn fails to disclose, or even suggest, the

step of curing the membrane material to bond the support member to the membrane, as recited in claim 14. Furthermore, it is respectfully submitted that the combination of Ostuni et al. and Winn fails to disclose, or even suggest, a method for handling a membrane that includes the step of attaching a support member to the membrane by positioning the transfer frame, when the membrane is in an uncured state, such that a surface of the transfer frame is in contact with the membrane and then curing the membrane as recited in amended claim 22. The Office Action admits that "Ostuni et al. ... do not specifically disclose the step of bonding a support member to the membrane while it is disposed on the patterned substrate and removing the membrane from the substrate with the support member." Office Action at page 4. In addition and as set forth more fully above, the Office Action admits that "Winn does not specifically disclose that the support member is applied to the membrane before the membrane is cured." Office Action at page 4.

The Office Action contends that, with respect to Winn, "the skilled artisan would have been appreciative that [applying the support member to the membrane before the membrane is cured] would enhance adhesion of the membrane to the support member and also ensure that any shrinkage of the membrane during curing is counteracted by its adherence to the support member." Office Action at page 4. However, the Examiner provides no support for this assertion. On the contrary, a person skilled in the art at the time of the invention, would not have been motivated by the teachings of Winn and/or Ostuni et al. to apply a support member to a membrane before the membrane is cured because Winn specifically describes different methods for attaching a support member to a membrane after the membrane has been cured, namely that "after a membrane has been formed on a rotatable surface having a release agent thereon, a closed perimeter ring or frame can be cemented to the membrane", col. 5, lines 22 to 22, emphasis added. In addition, Winn discloses that "[t]o remove the finished membrane from the rotatable support surface, and, in particular, to form an edge-supported membrane therefrom, we apply cement or other bonding agent to the surface of a lapped frame [or] alternatively, we can apply cement to the film itself through a stencil of appropriate shape [whereby] the frame and membrane are then joined to one another, and the cement is permitted to set and dry." Col. 5, lines 61 to 68, emphasis added.

Still further, a person skilled in the art at the time of the invention, would not have been motivated to combine the teachings of Winn and the teaching of Ostuni et al. to arrive at the recited features of the present invention. Ostuni et al. describe in Figures 2 and 4 methods for “peeling” a membrane from its support. Specifically, Ostuni et al. describe that “[a]fter curing the membrane at 60°C for 2h, we applied ...a thicker layer of PDMS prepolymer to the edges of the membranes and cured them [which] served as a reinforcement layer that made it easier to pick up the membranes without damaging them.” Page D, column 2. Thus, Ostuni et al. merely purports to describe a method of reinforcing the thickness of the outer edge of a membrane so that it may be picked up or otherwise handled, e.g., with tweezers. Even if a person skilled in the art would have been motivated to apply a support member to the membrane, the teachings of Winn would at most have motivated said person to cement a support member to the membrane or to the reinforced portion of the membrane after the membrane has been cured, but not to have attached the support member to the membrane by curing the membrane material to bond the support member to the membrane or by positioning the transfer frame, when the membrane is in an un-cured state, such that a surface of the transfer frame is in contact with the membrane and then curing the membrane, as recited in claims 14 and 22, respectively.

Moreover, it is respectfully submitted that the cases of In re Fine, supra, and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), make plain that the Office Action’s generalized assertions that it would have been obvious to modify the reference do not properly support a § 103 rejection. It is respectfully submitted that those cases make plain that the Office Action reflects a subjective “obvious to try” standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the references relied upon. In particular, the Court in the case of In re Fine stated that:

The PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. This it has not done. . . .

Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . One cannot use hindsight reconstruction to pick and choose among isolated

disclosures in the prior art to deprecate the claimed invention.

In re Fine, 5 U.S.P.Q.2d at 1598 to 1600 (citations omitted; italics in original; emphasis added). Likewise, the Court in the case of In re Jones stated that:

Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. . . .

Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].

In re Jones, 21 U.S.P.Q.2d at 1943, 1944 (citations omitted; italics in original).

That is exactly the case here since it is believed and respectfully submitted that the present Office Action offers no evidence whatsoever, but only conclusory hindsight, reconstruction and speculation, which these cases have indicated does not constitute evidence that will support a proper obviousness finding. Unsupported assertions are not evidence as to why a person having ordinary skill in the art would be motivated to combine or modify the references to provide the claimed subject matter of the claims to address the problems met thereby. Accordingly, the Office must provide proper evidence of a motivation for combining or modifying the references to provide the claimed subject matter.

More recently, the Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a "technologically simple concept" -- which is not the case here -- there still must be some finding as to the "specific understanding or principle within the knowledge of a skilled artisan" that would motivate a person having no knowledge of the claimed subject matter to "make the combination in the manner claimed," stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed

limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper prima facie case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000) (emphasis added). Again, it is believed that there have been no such findings.

Accordingly, there is no evidence that the references relied upon, whether taken alone or modified, would provide the features and benefits of claims 14 and 22. It is therefore respectfully submitted that claims 14 and 22 are allowable for these reasons. As for claims 15, 17 and 21, which ultimately depend from claim 14 and therefore include all of the limitations of claim 14, and claims 23 to 29, 30, 31, 34, 35, 38 and 40 , which ultimately depend from claim 22 and therefore include all of the limitations of claim 22, it is respectfully submitted that the combination of Winn and Ostuni et al. does not anticipate these dependent claims for at least the same reasons given above in support of the patentability of claims 14 and 22, respectively.

IV. Rejection of Claims 32, 33, 36 and 37 Under 35 U.S.C. §103(a)

Claims 32, 33, 36 and 37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ostuni et al. in view of Winn, and further in view of U.S. Patent No. 5,147,397 ("Christ et al."). It is respectfully submitted that the combination of Ostuni et al., Winn and Christ et al. does not render obvious the present claims as amended herein for the following reasons.

Christ et al. purports to describe a method for producing an intraocular lens including an optic and at least one haptic. Christ et al. describe that the method comprises: exposing the lens bonding region of the haptic to a plasma at conditions effective to enhance the bondability of the lens bonding region to the optic; and bonding the exposed lens bonding region to an optic. Christ et al. state that the plasma exposed haptic may be coated with a material, e.g., to preserve the

enhanced bondability property, prior to bonding the coated lens bonding portion to the optic. See Abstract.

The Office Action states that "Christ et al., directed to the problem of bonding dissimilar plastic adherends, teaches that plasma processing of at least one adherent improves the bond strength between them." Office Action at page 6. The Office Action also states that "the composition of the plasma gas (such as oxygen), exposure time power, and/or other parameters may be varied depending upon the equipment used and particular materials being bonded [and that a]ccording to Christ et al. these parameters can be readily optimized by routine experimentation (column 6, lines 50-60; column 10, lines 57-62))." Office Action at page 6. The Office Action concludes that "[i]t would have therefore been obvious to one of ordinary skill in the art at the time of invention to provide the support member of Winn with a surface treatment by oxygen plasma processing to increase the bondability of its bonding portions motivated by the fact that Christ et al. teaches that such a method is known to increase bondability and may be varied and optimized depending upon the equipment used and the materials to be bonded." Office Action at page 6.

Claims 32, 33, 36 and 37 each depend indirectly from claim 22, and therefore include all of the features of claim 22. As set forth more fully above, the combination of Ostuni et al. and Winn does not render unpatentable claim 22 for at least the reason that the combination of Ostuni et al. and Winn does not disclose a method for handling a membrane that includes the step of attaching a support member to the membrane by positioning the transfer frame, when the membrane is in an un-cured state, such that a surface of the transfer frame is in contact with the membrane and then curing the membrane as recited in amended claim 22. Christ et al. is not relied on to disclose or suggest, and in fact does not disclose or suggest, those features of amended claim 1 not disclosed or suggested by the combination of Ostuni et al. and Winn. For instance, Christ et al. is not relied on to disclose or suggest, and in fact does not disclose or suggest, a method for handling a membrane that includes the step of attaching a support member to the membrane by positioning the transfer frame, when the membrane is in an un-cured state, such that a surface of the transfer frame is in contact with the membrane and then curing the membrane as recited in amended claim 22. Since claims 32, 33, 36 and 37 depend from independent claim 22, and since Christ et al. simply do not cure the critical deficiencies of the combination of Ostuni et al. and Winn, it is respectfully

submitted that claims 32, 33, 36 and 37 are allowable for at least the same reasons that claim 22 is allowable. See In re Fine, supra.

V. Rejection of Claim 41 Under 35 U.S.C. §103(a)

Claim 41 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ostuni et al. in view of Winn, and further in view of U.S. Patent No. 4,802,945 ("Opina"). It is respectfully submitted that the combination of Ostuni et al., Winn and Opina does not render obvious the present claim for the following reasons.

The Office Action states that "[a]lthough Winn does not specifically disclose that the support member, once adhered to the membrane, functions as a container, it would have been obvious to one of ordinary skill in the art at the time of invention that it would do so motivated by the fact that Opina, also drawn to the formation of patterned membranes having a support member applied thereto, teaches that once applied the support member functions as a container to contain the material which will be applied to the membrane to pattern a target substrate (Figures 1-5; column 2, line 57 to column 3, line 25)." Office Action at page 4.

Claim 41 depends from claim 22, and therefore includes all of the features of claim 22. As set forth more fully above, the combination of Ostuni et al. and Winn does not render unpatentable claim 22 for at least the reason that the combination of Ostuni et al. and Winn does not disclose a method for handling a membrane that includes the step of attaching a support member to the membrane by positioning the transfer frame, when the membrane is in an un-cured state, such that a surface of the transfer frame is in contact with the membrane and then curing the membrane as recited in amended claim 22. Opina is not relied on to disclose or suggest, and in fact does not disclose or suggest, those features of amended claim 22 not disclosed or suggested by the combination of Ostuni et al. and Winn. For instance, Opina is not relied on to disclose or suggest, and in fact does not disclose or suggest, a method for handling a membrane that includes the step of attaching a support member to the membrane by positioning the transfer frame, when the membrane is in an un-cured state, such that a surface of the transfer frame is in contact with the membrane and then curing the membrane. Since claim 41 depends from independent claim 22, and since Opina simply does not cure the critical deficiencies of the combination of Ostuni et al. and Winn, it is respectfully submitted

that claim 41 is allowable for at least the same reasons that claim 22 is allowable. In re Fine, supra.

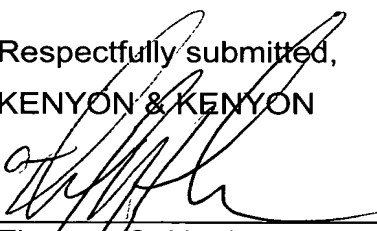
VI. Allowable Subject Matter

Applicants note with appreciation the indication of allowable subject matter contained in claims 16, 18 to 20, 39, 42 and 43. In this regard, the Examiner will note that claims, 16, 18, 39 and 42 have been amended herein to include the limitations of their base claims and any intervening claims. It is therefore respectfully submitted that claim 16, 18, 39 and 42 are therefore in condition for immediate allowance. Furthermore, since claims 19 and 20 depend from claim 18, and since claim 43 depends from claim 42, it is respectfully submitted that these claims are also in condition for immediate allowance by virtue of the amendments made herein to claims 18 and 42, respectively.

VII. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

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